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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,250	10/08/2004	Nigel-Philip Cox	2002P00676WOUS	8761

7590

10/07/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/511,250

Applicant(s)

COX ET AL.

Examiner

Jason L. Savage

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-32 is/are allowed.
- 6) ☒ Claim(s) 13-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20041008.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation in line 3 of claim 13 that a plurality of material layers are arranged on the component that chemically react with the masking layer is indefinite since it is unclear if Applicant intends there are multiple coating layers on the component separate from the masking layer wherein one layer chemically reacts with the masking layer, if they are multiple coating layers wherein all of the layers chemically reacts with the masking layer, or if Applicant was describing the multiple layer structure of the masking layer. For Examination purposes, the claim will be interpreted as meaning multiple layers are arranged on the component, all of which chemically react with the masking layer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1775

Claims 13-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheat et al. (US 6,253,441) and evidenced by the present Application.

Wheat teaches a turbine component such as a blade or vane comprising a masking layer arranged on a portion of the component (col. , ln. 14-39). Wheat further teaches that in addition to the mask material layers a material layer of aluminum is arranged on the component (col. 5, ln. 57-67).

Wheat is silent to the limitation that the material layer arranged on the component chemically reacts with the masking layer, however it is the position of the Examiner that such a reaction would have been inherent particularly given the methods of deposition recited (col. 5, ln. 55 – col. 6, ln. 4). Regarding the limitation that a water-soluble layer is formed by the reaction, Wheat teaches that the mask layer may be carbon (col. 4, ln. 36-55). As was disclosed by Applicant in paragraph [0036] of the instant Application, an aluminum and carbon reaction product is water-soluble.

Wheat is also silent to there being layer arranged on the component comprise a plurality of layers that chemically react with the masking layer. However, absent a teaching of the criticality or showing of unexpected results from the arranged layers comprising multiple layers as opposed to a single layer, it is viewed as a design choice that would not provide a patentable distinction over the prior art. It would have been within the purview of one of ordinary skill in the art to have recognized that any number of material layers could be formed on the component with a reasonable expectation of success of producing a gas turbine component exhibiting desirable properties.

Regarding claim 14, Wheat teaches the turbine may be a blade or vane (col. 3, ln. 14-15).

Regarding claim 15, Wheat is silent to the material layer being a ceramic thermal barrier coating (TBC); however forming TBC coatings on turbine components is well known in the art. It would have been obvious to one of ordinary skill in the art to have applied conventional coatings such as TBCS coatings to the turbine component of Wheat.

Regarding claim 16, although White does not explicitly recite the aluminum coating is a bond coat, it would meet the claim limitation of being a bond coat (col. 47-67).

Regarding claim 17, White teaches that carbon is arranged on the outer surface of the masking layer (col. 4, ln. 36-55).

Regarding claim 18, the reaction between aluminum and carbon would provide a ceramic layer.

#### ***Allowable Subject Matter***

Claims 27-32 are allowed

The following is a statement of reasons for the indication of allowable subject matter:

The prior art teaches turbine components comprising masking layers arranged on the surface of the component wherein additional layers are subsequently formed thereon which react with the masking layers. The prior art teaches masking coatings

Art Unit: 1775

form reaction products that are removable by chemical or mechanical means and other masking coatings that do not react with the subsequent coated layers.

The prior art of Wheat (US 6,253,441) additionally teaches a masking layer containing copper which is subsequently coated with aluminum. As was noted in the instant Application, the reaction product from aluminum and carbon is water-soluble and this Wheat is deemed to teach a water-soluble formed layer on the component.

However, the prior art does not teach or suggest a component wherein a thermal barrier coating is chemically reacted with the masking layer which forms a water-soluble layer such as is claimed in claims 27-32.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

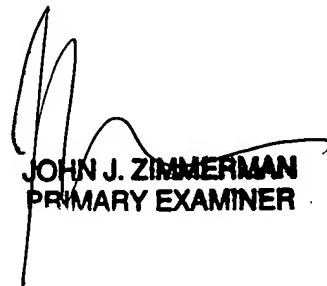
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason Savage  
9-30-05



JOHN J. ZIMMERMAN  
PRIMARY EXAMINER